Outstanding New Books

YOUTH, MARRIAGE AND PARENTHOOD
By LEMO D. ROCKWOOD, Professor of Home Economics, and MARY FORD, Assistant Professor of Home Economics; Both at New York State College of Home Economics, Cornell University

Essentially a presentation of research findings, this study of the attitudes of three hundred and sixty-four university juniors and seniors toward sex education, premarital sex behavior, marriage, parenthood and divorce stresses the relation between the attitudes expressed and selected factors in the students' own backgrounds. The findings of the present study are related to previously made studies and to conditions as they actually exist. September 1945.

Approximately 279 pages; $3.50

INTRODUCTION TO ORGANIC CHEMISTRY
By ALEXANDER LOWY, Late Professor of Organic Chemistry, University of Pittsburgh, BENJAMIN HARROW, Professor of Chemistry, and PERCY APPELBAUM; Both at City College, College of the City of New York.

Thoroughly revised, this new edition has much additional material; a more extended discussion of the electronic concept of valence, and includes such topics as resonance, substitution in the benzene ring, alicyclic ring structures and high polymers. The chapter on terpenes has been rewritten and the list of references revised. September 1945.

Sixth Edition; Approximately 463 pages; $3.50

MANUAL OF CHILD PSYCHOLOGY
Edited by LEONARD CARMICHAEL, President; Director of the Laboratory of Sensory Psychology and Physiology; Tufts College

A handbook of facts, established theories, techniques and methodology, which surveys the field of child psychology and evaluates the result of research in the psychology of human development. With nineteen separate chapters, each written by a recognized authority, the book is an advanced scientific manual, giving most complete bibliographical survey of the literature on child development now available. October 1945.

Approximately 1459 pages; $6.00

ELECTRON OPTICS AND THE ELECTRON MICROSCOPE
By V. K. ZWORYKIN, G. A. MORTON, E. G. RAMBERG, J. HILLIER, A. W. VANCE; All at RCA Laboratories, Princeton, N. J.

This comprehensive book covers the electron microscope in all its phases. The material was chosen to fulfill a two-fold purpose. The first is to aid the present or prospective microscopist in understanding his instrument and using it to greatest advantage; the second, to present systematically the practical and theoretical knowledge which must form the basis for further progress in electron microscope design. September 1945.

Approximately 759 pages; $10.00

AERIAL NAVIGATION
By H. E. BENHAM, Director of Ground Training, Pan American-Grace Airways, Inc.

This book is designed to provide students of aerial navigation with a practical treatment of the subject that is simple yet complete. It explains the latest technique in the field and includes problems applying theory to actual cases. The book is suitable for use in college courses or in airlines' pilot training courses. October 1945.

Approximately 336 pages; $3.50

JOHN WILEY & SONS, Inc., 440-4th Ave., New York 16, N. Y.
"CANNING" URANIUM SLUGS

Learning how to "can" uranium slugs was one of the most difficult problems encountered in making atomic bombs, Dr. H. D. Smyth, of Princeton University, consultant on the project, relates in the technical report released by the War Department. The failure of a single "can" might have caused an entire operating unit to be shut down.

The most efficient way of cooling the uranium would have been to let the water flow in direct contact with the radioactive metal in which the heat was being produced. This seemed out of the question, however, since uranium would react chemically with the water. It was feared direct contact between the two would put a dangerous amount of radioactive material into solution and probably even disintegrate the uranium slugs.

No one who lived through the period of design and construction of the Hanford, Wash., plant is likely to forget the problem of sealing the uranium slugs in protective metal jackets, according to Dr. Smyth. The state of the "canning problem" could be roughly estimated by the atmosphere of gloom or joy to be found around the laboratory.

A sheath had to be found that would protect uranium from water corrosion, keep fission products out of the water, transmit heat from the uranium to the water and not absorb too many neutrons.

Metal jackets or cans of thin aluminum were feasible from the nuclear point of view and were chosen early as the most likely solution of the problem, but alternative ideas continued to be explored. Both the problem of getting a uniform heat-conducting bond between the uranium and the surrounding aluminum, and that of effecting a gas-tight closure for the can proved troublesome.

Even up to a few weeks before it was time to load the uranium slugs into the pile there was no certainty that any of the processes under development would be satisfactory. A final minor but apparently important modification in the canning process was adopted in October, 1944, and up to the time the report was written there had been no canning failures.

ITEMS

An electronic navigator for ocean, lake and river ships, that will detect above-water obstacles such as other vessels, icebergs, land, lighthouses and buoys by radar, is under test on shipboard by the U. S. Maritime Commission, it is now announced. It will detect these obstacles through darkness, fog and storm at distances up to 30 miles, depending on the size of the object. The tests are being made on the SS American Mariner, training ship of the WSA's Maritime Service training program. Additional sets will be placed soon on other vessels. When materials are available the equipment will be obtainable by commercial shipping, both on inland waters and on the sea. The device operates on the radar principle of radio waves which are reflected from objects and are measured to give true bearing and distances of the object from the point of sending. It has a rotating antenna, located on top deck of the vessel, sending out powerful radio micro-waves capable of penetrating fog or other atmospheric conditions. If these pulses hit an object, some of them are reflected back to the rotating antenna, which also contains a receiving antenna. The apparatus is an adaptation of radar equipment that has served a valuable war purpose. The set under test was developed by the General Electric Company laboratories at Schenectady, N. Y.

With the return of heavy automobile traffic to the nation's highways, drivers in three additional states will find themselves operating under financial responsibility laws to protect innocent parties in case of accidents. These three, Nebraska, Minnesota and Georgia, have enacted such legislation during the present year. Some thirty-two others had previously passed such laws. The main features of the Nebraska and Minnesota legislation are similar. In accidents involving more than $50 damages, the driver and owner must pay the damages within sixty days, or forfeit driving license. Reinstatement of the license is contingent upon the driver taking out an insurance policy or equivalent bond to cover future accidents. Under the Georgia law, the driver against whom damage claims are assessed by the court must pay in thirty days or have his license suspended. It is not returned until the licensee has taken out liability insurance. Nine other states have legislation similar to these three, according to the Public Administration Clearing House of Chicago. Some of the other states have laws much more severe. The Massachusetts statute is the most stringent. In that state a driver must obtain responsibility insurance before any permit to drive is issued to him.

Mustard seed is now scattered by airplanes over fire-devastated mountainous areas in California to start a quick growth to form a cover to prevent soil erosion. Of a hundred kinds of seeds tested for this purpose, black mustard proved most desirable. A report relative to the use of mustard seed to prevent erosion on burned-over areas in California has been issued by the U. S. Department of Agriculture. Erosion of many of the California hill and mountain soils is extremely severe if the chaparral or forest cover is destroyed by fire. The problem is to restore growing plants to cover the soil with their leaves and hold it with their roots before rain can get in the soil and wash it away. The black mustard seed is satisfactory because it is light and fine, and smooth so that it settles rapidly and evenly when blown from a plane. It sprouts quickly with even slight moisture and roots rapidly. Its first growth is a rosette of leaves that forms a protective pad at the soil surface. It is an annual that resends well, but dies the first year and forms a litter of dead tops.
PHYSICAL METHODS OF ORGANIC CHEMISTRY

Edited by: DR. A. WEISSBERGER, Eastman Kodak Co., Rochester, N. Y.

VOLUME I:
August 1945  6 x 9  744 pages  274 illustrations  $8.50


VOLUME II:
October 1945  6 x 9  approx. 600 pages  316 illustrations  $8.50


OUR 1945 CATALOG WILL BE SENT ON REQUEST.
Histology

BLAKISTON BOOKS

BREMER-WEATHERFORD  Reprinted  1944
Textbook of Histology—6th Edition

An outstanding text for the study of the microscopic structure of the human body. Teachers like the embryological approach, the discussion of function, the frequent mention of comparative histology, the copious historical notes and references—all of which are effective aids in the understanding of structure.

Rewritten by HAROLD L. WEATHERFORD, Ph.D., Assistant Professor of Anatomy, Harvard University.

LAMBERT  Reprinted  1944
Introduction and Guide to the Study of Histology

This text is giving great satisfaction as an introductory course in histology. Teachers say the arrangement and choice of subject matter are excellent. The book unifies the two aspects of the histology course by serving both as a lecture text and as a laboratory guide. It also gives an adequate background for the further study of physiology and pathology.

By A. E. LAMBERT, Ph.D., Professor of Histology, University of Iowa Medical School.

STILES  Reprinted  1944
Handbook of Microscopic Characteristics of Tissues and Organs—2nd Edition

Widely used by teachers and students because of the efficient method of study set forth. This text is a unique aid in identification studies; it clearly outlines fundamental facts and saves time for the study of functional aspects. The material is arranged in systems and each system is followed by a convenient tabular summary. Discussions are subdivided into general characteristics, unique attributes, types, origin from fundamental layers of the embryo, and examples of locations in the body.

By KARL A. STILES, Ph.D., Basic College, Department Biological Science, Michigan State College.

COLE
Textbook of Comparative Histology

With emphasis on the vertebrate forms, this text provides material which does not duplicate that given in the medical schools.

By ELBERT C. COLE, Ph.D., Professor of Biology, Williams College.

THE BLAKISTON COMPANY  PHILADELPHIA
IN THE MARKET PLACE

RATES to be paid in advance. Regular setting 10¢ a word, minimum charge $2.00 each; count 8 words if a box address is used. Display, 3 inches maximum, $8.00 per column inch. No discounts or commissions.

SEND advertisements with remittance to the ADVERTISING DEPARTMENT, American Association for the Advancement of Science, SMITHSONIAN INSTITUTION BUILDING, WASHINGTON 25, D. C. Correct remittance must accompany instructions and copy and advertisements will be published in sequence of completed orders.

ADVERTISERS are requested to state in their announcements the section of the country in which a position is open or desired to ensure replies only from employers or prospective employees geographically available.

SUBMIT copies, not original documents, when replying to advertisements. Advertising circulars will not be forwarded and to that end all letters will be opened for inspection at the forwarding office.

PERIODICALS

Wanted to purchase Scientific Periodicals, Foreign—Barrow, 102-104 W. 23rd Street, New York 10, New York.

POSITIONS WANTED

Army officer anticipating release wants civilian position, preferably teaching, perhaps commercial. Ph.D. in biochemistry, also trained in physiology, chemistry. Taught Biochemistry in large midwest medical school 6 years prewar. Army duties in aviation physiology and also AFF personnel and emergency equipment and procedures. Box 218, "Science," Smithsonian Institution Building, Washington 25, D. C.

Physiologist, naval officer engaged in aviation medicine research, desires position when released. Taught undergraduate biological subjects, graduate endocrinology. Open minded as to nature of work providing it involves sound research, decent income. Box 218, "Science," Smithsonian Institution Building, Washington 25, D. C.

Editor, woman with extensive experience in medical editing and library research in responsible position with important organization, wants change. Reading knowledge several languages; also secretarial and office management background. Opportunity for service to humanity through science important. Nothing connected with advertising considered. Box 220, "Science," Smithsonian Institution Building, Washington 25, D. C.

Economic Biologist-Entomologist, M.S., B.S., Wisconsin and Harvard, four years other graduate studies in leading universities, available. Nine years teaching in six universities—forest zoology, birds, bees, insects with regulatory work, phytopathology. Twenty-five years in museums, public relations, publications, Protestant. Box 229, "Science," Smithsonian Institution Building, Washington 25, D. C.

Opportunities Wanted—Biochemist and physiologist; B.A. (physiology and biochemistry), M.A. (biochemistry), Ph.D. (physiology); several years experience as assistant professor of physiology, university medical school; duties in Navy have been concerned chiefly with nutrition; for further information, please write BURNEICE LARSON, Director, Medical Bureau, Palmolive Building, Chicago 11.


Biologist desires position. 36; Ph.D. Cytology, genetics, cellular physiology; 8 years' teaching, lecturing at Eastern University—general biology, botany, zoology, comparative anatomy, embryology, histology, histological techniques; Associate Chemist 3 years, dissolved war agency; Member Sigma Xi, American Society of Zoologists. Box 225, "Science," Smithsonian Institution Building, Washington 25, D. C.

POSITIONS OPEN

Opportunities Available—(a) Professors in surgery, pathology, neurology, bacteriology, parasitology and roentgenology; university operated under American auspices in Asia; country predominantly Christian; city in which university is located has population of 350,000 and is considered important seaport. (b) Associate professor, department of dermatology and syphilology, university medical school; thorough background in internal medicine required; advantageous if experienced or particularly interested in one of fundamental medical sciences, particularly in applying this knowledge to study of syphilology and dermatology. (c) Associate or assistant professor and, also, instructor biochemistry; university medical school; South.

(d) Biochemist experienced in protein chemistry; research on use of radioactive isotopes in medicine; department of medicine, university medical school; possibility of permanent faculty appointment after completion of research program. (e) Histologic technician qualified to make good slides to assist pathologist, director of laboratories, 250-bed hospital; large city in Southern Michigan. (f) Analytical organic chemist for quality control laboratory, large pharmaceutical company; recent graduate with chemistry major preferred. (g) Sanitary chemist for sewage, industrial waste and pollution research; excellent opportunity developing long-time research program; college of engineering, state university. 88-5 Medical Bureau (BURNEICE LARSON, Director), Palmolive Building, Chicago 11.

Chemist, B.S. or M.S. for literature and patent searches, midwestern pharmaceutical house, young woman preferred. Box 216, "Science," Smithsonian Institution Building, Washington 25, D. C.

SUPPLIES AND EQUIPMENT

We still have considerable stock of Grueblers Stains and Kahlbama Chemicals. Write for quotations.

ALTON, Inc., 55 Van Dam St., New York 13, N. Y.

Write for New Cat. No. 67 on Analytical Filter Papers

Schleicher & Schuell Co.
Plant and Lab: South Lee, Mass.
Head Office: 116-118 West 14th St.
New York 11, N. Y.

RESEARCH FELLOWSHIPS

With the war's end, a limited number of Battelle graduate research Fellowships are available immediately to highly qualified men who plan to follow a career in industrial research. Fellowships are limited to graduate students in engineering or the physical sciences who are candidates for a master's or doctor's degree at the end of the school year for which the Fellowship is granted.

Fellows are registered in the graduate school of one of the participating universities and they conduct their thesis research at Battelle where unique experience is gained in group research. A seminar and research program in conjunction with the laboratory research is especially designed for men planning a career in industrial research.

Qualified men recently released from war work who desire to do graduate work this winter are invited to submit full details at once.

BATTENLE MEMORIAL INSTITUTE
Columbus 1, Ohio.
The Catalog Corner

Please write directly to the company indicated for any publication you wish mentioning the bulletin number and SCIENCE. Publications are gratis unless otherwise noted.

INAUGURATED earlier this year, THE CATALOG CORNER has not appeared during recent issues because manufacturers and suppliers kept catalog publications at a minimum to conserve paper. Now that hostilities have ended and paper supplies will again make it possible for these firms to send copies for announcement, THE CATALOG CORNER is being resumed.

COMPANY PUBLICATIONS

For the first time, company publications are given mention. These publications are generally issued monthly and are comparable in quality with many leading magazines. In most cases the editorial material centers around the products and research being conducted by the issuing company. A large number are profusely illustrated and printed in color. Because we believe that scientists as a group are interested in the practical application of fundamental research and because so many of the company publications give information of this kind in detail, we are listing several that have come to our attention recently. Many firms undoubtedly will use their own publications to announce their postwar products. If you wish to secure copies, write directly to the companies with a request that your name be added in accordance with their policies for distribution and when paper supplies do not limit distribution. The next CATALOG CORNER will list other publications.

THE DUFONT MAGAZINE. Published monthly by E. I. DuPont de Nemours and Company (Inc.) at Wilmington, Delaware. E. R. Manchester, Editor.

THE MILVAY NOTEBOOK. Issued quarterly by The Chicago Apparatus Company, 1735 North Ashland Avenue, Chicago 22, Illinois.

THE BURRELL TECHNICAL ANNOUNCER. Issued at irregular intervals by the Burrell Technical Supply Company, 1306 Fifth Avenue, Pittsburgh 19, Pa.

THE DOW DIAMOND. Published bi-monthly by the Dow Chemical Company, Midland, Michigan. George D. Welles, Jr., Editor.

THE ETHYL NEWS—monthly publication of the Ethyl Corporation, 405 Lexington Avenue, New York 17, New York.

BAKELITE REVIEW, published quarterly by the Bakelite Corporation, 50 East 42nd Street, New York 17, New York.

CENSO News CHATS. Issued each month by the Central Scientific Company, 1700 Irving Park Road, Chicago, Illinois.

EQUIPMENT AND SUPPLIES

Nutrition of Laboratory Animals. This illustrated 28-page brochure in large format brings into one ready reference useful information about various phases of maintaining laboratory animals. The following animals are dealt with: mice, guinea pigs, rabbits, dogs, chickens, hamsters, cats, and monkeys. For each type of animal there are directions for correct housing, breeding techniques, sanitation, and feeding. The Care and Feeding of Laboratory Animals. Brochure SP-2245A-SC-5. The Purina Mills, St. Louis 2, Missouri.

Microscope Manufacture. A detailed history of the development of the American microscope industry is given in this 77-page booklet. Published by the Spencer Lens Company, it is largely centered around the three men who developed the company, Charles A. Spencer, Robert B. Tolles, and Herbert R. Spencer. Scientists who can recall former American dependence on foreign sources for optical equipment will enjoy reading this history of achievement. Three American Microscope Builders. Booklet SC-8. THE AMERICAN OPTICAL COMPANY, Rochester, New York.

Optical War Equipment. This is an illustrated report issued by the Bausch and Lomb Optical Company revealing, within the limits of security regulations, the contribution of the optical industry to the successful prosecution of the war. Among the optical pieces shown for the first time are a bubble sextant, aircraft photo reconnaissance equipment, and a surface lookout aidade. Seeing It Through. Booklet SC-8. THE BAUSCH AND LOMB OPTICAL COMPANY, Rochester, New York.

Improved Pipette Apparatus. A new pipette apparatus is now available from this supplier. Manually operated, it eliminates the dangers inherent in mouth suction devices. A small knurled knob at the top of the apparatus that can be turned with the thumb and forefinger operates the suction mechanism. Can be used with red and white blood pipettes, Sahl pipettes and others with capacities of less than 1 ml. Chrome plated for longer wear and ease in sterilization. Leaflet SC-2. CLAY-ADAMS, INC., 44 East 23rd St., New York 10, N. Y.

Polarizing Microscope. A microscope utilizing Polaroid material in places of the usual calcite polarizing prisms has been announced by the American Optical Company’s Scientific Instrument Division. The brochure states that the optical characteristics of the Polaroid material have been found to parallel closely those of calcite equipment and the shorter length of the polarizing unit combined with the elimination of several glass-air surfaces reduces the amount of stray light admitted. The manufacturer particularly recommends use of this new development when maximum brilliance for interference figure work is important. Prices for the complete unit or accessories are given. Bulletin M156 SC-8. THE AMERICAN OPTICAL COMPANY, SCIENTIFIC INSTRUMENT DIVISION, Buffalo 11, N. Y.

SCIENTIFIC BOOKS AND PERIODICALS

Medicine and Allied Fields. The 1945 edition of this publication dealing with medicine, dentistry, surgery, public health and veterinary medicine. In addition to listing standard publications previously announced, a special price supplement is included. The supplement describes new books planned for this year and lists books that have gone out of print or for which there are changes of price. Macmillan Books, 1945 SC-5. THE MACMILLAN COMPANY, 60 Fifth Avenue, New York 11, New York.

Foreign Scientific Books. This is a revised edition of this publisher’s Catalog No. 5. The publishers intend to continue publication of foreign technical books under the license of the Alien Property Custodian and list more than 500 titles already published or ready for publication. Major fields of science covered include mathematics, engineering, photography, physics, rockets, and chemistry. Catalog No. 5 (Special Revision) SC-2. J. W. EDWARDS, Ann Arbor, Michigan.
Number 1 in a series to better acquaint the readers of SCIENCE with its companion publication THE SCIENTIFIC MONTHLY

The Scientific Monthly
August 1945

Contents
The Future of the Last Year ........................................ A. D. Kathe 44
The President of the American Institute of Biological Sciences ... J. W. Eaton 58
An English Physician at Asbury Plant ................................... M. F. Howard 63
The American Chemical Society at Lima .................................. E. S. Mayer 66
A New Book by a Great Mind ............................................ C. D. Newsom 68

Question
How can I keep informed of the trends of scientific thinking in the various sciences?

Answer
Read THE SCIENTIFIC MONTHLY regularly. SM, as THE SCIENTIFIC MONTHLY is known to its regular readers, is published by the A.A.A.S. to do just that job for all scientists. In contrast to SCIENCE, which gives prompt publication to the "news" of the scientific world, the SM explores the limitless scientific frontiers. The SM will not only help you toward a better grasp of advances in fields other than your own, but also will widen your horizon of your particular branch of science.

Question:
What are some of the features of the SM?

Answer:
Each month the SM presents:

NINE ORIGINAL ARTICLES. Each article is an interpretive report on a separate subject.

SCIENCE ON THE MARCH. Concise reports of how other scientists have made significant applications of fundamental scientific discoveries. Many of these items will stimulate your thinking for applications in your own field.

MEET THE AUTHORS. Short biographical sketches highlighting information about the authors of the articles. People are interesting and none are more so than SM authors.

COMMENTS AND CRITICISMS. This department offers any person interested in science an opportunity to speak freely and without the wraps. The SM does not dodge controversial topics and the verbal exchanges are excellent debates about scientific issues.

REVIEWS of the important new scientific books—down-to-earth reviews critically and constructively prepared by leading scientists so that you can tell whether or not a book should be in your library.

Question:
That sounds like a magazine that could be read profitably by every scientist. How do I subscribe?

Answer:
To start your subscription, fill out the form below and mail it with your check for the correct amount to the A.A.A.S. office. Members of the Association in good standing currently receiving SCIENCE may subscribe to the SM for $3.00 additional. Such subscriptions begin with the January issue. Nonmember subscriptions are $5.00 if started with the January issue or $6.00 if begun at other times. Use the coupon, too, if you want information about membership.

American Association for the Advancement of Science
Smithsonian Institution Building
Washington 25, D. C.

Please enter my subscription for THE SCIENTIFIC MONTHLY. My check for the amount of $ is enclosed.
A.A.A.S. member now receiving SCIENCE ........................................ $3.00
Nonmember subscription to start immediately ...................................... $6.00
Nonmember subscription to start with the January 1946 issue ................ $5.00
I am not a member of the A.A.A.S. Please send me complete information about membership.

Name (please print) ..........................................................
Address .................................................................
(Street) (City and zone) (State)
SCIENCE CLASS INTEREST

When students see actual specimens magnified to reveal the smallest details—when they feel the thrill of using the tools of the scientist, their interest in science expands. They learn quickly and thoroughly and the teacher's task is made easier.

Here are four Spencer instruments designed to assist the teacher in stimulating student interest.

Show specimens by projection

From the teacher's microscope a clear image of the specimen can be projected onto a screen for all the class to see. The Spencer No. 346 Prism fits over the eye piece for simple microprojection.

One microscope — two observers

Teacher and student can view the same field at the same time through the Spencer Demonstration Eyepiece. A movable pointer, visible to both, makes explanation easy.

Magnify details for clarity

Objects which can be seen clearly with Spencer Hand Magnifiers are encountered almost daily. Excellent definition is achieved with either Doublets ranging in power from 6X to 12X, or Triple Aplanats in powers from 6X to 15X.

Let students cut sections

Cutting sections of specimens so thin that characteristics may be studied under the microscope is fascinating to students. The Spencer Table Microtome is simple in construction and useful in demonstrating the principles of microtomy.

More detailed information about these and other teaching instruments is available in "Spencer Instruments for the Classroom." Write Dept. W2 for your copy.

American Optical Company
Scientific Instrument Division
Buffalo II, New York

Manufacturers of SPENCER Scientific Instruments